1070-63 **Noninvasive Evaluation of Left Anterior Descending Coronary Flow After Sildenafil Citrate (Viagra) Administration by Doppler Echocardiography in Normal Subjects**

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Background: Recently, noninvasive evaluation of coronary flow using transthoracic Doppler echocardiography was available. This method was convenient to evaluate the effect of a new medicine on coronary circulation. Sildenafil citrate (viagra) is a selective inhibitor of cyclic guanosine monophosphate specific phosphodiesterase type 5 and is indicated for the treatment of erectile dysfunction. Large and sudden drops in systemic blood pressure were reported in the many of patients taking viagra combined with nitroglycerin. However, there is few reports about the effect of viagra on coronary blood flow in human.
Purpose: The aim of this study is to evaluate the effect of viagra on heart.
Methods: Healthy six male volunteers whose mean age were 37years-old, were studied to assess mean blood pressure (MBP), the left anterior descending (LAD) coronary flow and echocardiographic parameters, such as fractional shortning (%FS) and E/A before, 30 minutes and 60 minutes after taking 50mg of viagra. The mean flow velocity of LAD (CFV) was assessed by Doppler flow imaging using Sequoia 512 .
Results: The CFV increased 60 minutes after taking viagra without any other parameter changes ($p<0.05$). Two volunteers felt mild flashing and one had mild headache during this study.
Conclusion: Viagra had the effect of vasodilation on normal coronary artery without systemic pressure drops. Those results suggest that viagra itself did not have negative effects on heart in normal subjects.

		Before	30 minutes	60 minutes
MBP	(mmHg)	110+/-12	107+/-10	110+/-10
CFV	(cm/sec)	13.4+/-1.7	13.8+/-2.3	16.0+/-3.1*
%FS	(%)	36.3+/-4.1	39.6+/-3.4	38.7+/-4.9
E/A		1.45+/-0.18	1.49+/-0.19	1.44+/-0.18

*: $p<0.05$, Before vs. 60 minutes

1070-64 **Echocardiographic Ischemia Is a Predictor of Death in Patients After Bypass Surgery in the Setting of Left Ventricular Dysfunction**

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BACKGROUND: Although stress nuclear testing has been found to predict outcome in patients who have had coronary bypass grafting (CABG), the ability of stress echocardiography to predict risk is not well defined.
METHODS: Consecutive patients (N=918, mean age 64+/-9, 85% male) referred for stress echocardiography were followed for 3 years. Exclusion criteria included heart failure and severe valve disease.Prespecified predictors of outcome included functional capacity, left ventricular systolic dysfunction (defined as ejection fraction <= 40%), the presence of any ischemia, and the presence of ischemia with or without concurrent left ventricular dysfunction. Functional capacity was considered impaired if the peak METs reached were fair or poor for age and gender according to a previously validated scale.
RESULTS: Left ventricular dysfunction was present in 190 (21%), while ischemia was found in 172 patients with normal LV function (24%) and 77 patients with abnormal LV function (8%). There were 311 (34%) with impaired functional capacity. During follow-up 71 patients (8%) died. Univariate predictors of death included abnormal LV function (14% vs. 6%, hazard ratio [HR] 2.1, 95% CI 1.3-3.4, P=0.003), impaired functional capacity (12% vs. 6%, HR 2.4,95% CI 1.5-3.9, P=0.0002), and ischemia with concurrent LV dysfunction (17% vs. 7%,HR 2.6, 95% CI 1.4-4.8, P=0.002). Ischemia was not predictive of death when LV function was normal (8% vs. 8%, HR 1.0, 95% CI 0.6-1.9, P>0.9). In a multivariable analysis adjusting for age, gender, standard risk factors, Q waves, use of beta blockers, and prior percutaneous revascularization, after age the strongest predictors of death were impaired functional capacity (adjusted HR 2.1, 95% CI 1.3-3.5, P=0.003) and ischemia in the presence of LV dysfunction (adjusted HR 2.1, 95% CI 1.1-3.9, P=0.02). Other predictors of death were smoking (P=0.03), diabetes (P=0.02), and ECG Q waves (P=0.02).
CONCLUSION: Echocardiographic ischemia in patients who have had prior bypass surgery is predictive of risk in the setting of concurrent left ventricular systolic dysfunction. Impaired functional capacity is also a powerful predictor of death.

1070-65 **Dobutamine Stress Echocardiography Unmasks Global Left Ventricular Dysfunction in Children With "Normal" Coronary Arteries Following Kawasaki Disease**

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Background: Currently, the American Heart Association recommends that long term follow up is unnecessary in Kawasaki disease (KD) patients without coronary artery involvement. Although positron emission tomography during adenosine infusion has shown impaired coronary vasodilatory reserve in this cohort of patients, there is a general paucity of data from which recommendations can be based. **Purpose**: We sought to determine if patients with KD and no evidence of coronary artery involvement had myocardial perfusion abnormalities. Specifically, our aim was to determine if these patients had *regional* and or *global* myocardial perfusion abnormalities during dobutamine stress echocardiography (DSE). **Methods**: We evaluated coronary perfusion by DSE in 12 children without 2D echo evidence of coronary involvement (4.2 - 13.3 yo, 3F, 9M). A standard DSE protocol was used. *Regional* wall motion was assessed by grading 16 myocardial segments at 4 stages (baseline, low dose, peak heart rate and at recovery). *Global* wall motion was assessed by ejection fraction at the same 4 stages. Time of DSE study was 4 ±1yr from diagnosis. **Results**: None of the 12 patients developed regional wall abnormalities at any stage. However, global LV function was significantly lower at recovery vs baseline (EF = 52±7% vs 60 ±7%, $p<0.0001$). **Conclusion**: Although regional wall motion was grossly normal during DSE, global function was signficantly lower than expected at recovery vs baseline in children with KD and "normal" coronary arteries greater than 2 years after diagnosis. This abnormal DSE recovery response supports previous evidence indicating that patients with "normal" coronary arteries may indeed have functional abnormalities of the coronary microcirculation. Although further studies on this subgroup of patients may be indicated for better understanding of Kawasaki disease sequelae,we believe that DSE is an important tool for the evaluation of coronary perfusion and may aid in clinical managemet decisions regarding long term follow up and risk stratification of these patients.

1070-66 **Prognostic Value of Normal Stress Echocardiography in the Presence of a Markedly Positive Stress Electrocardiogram**

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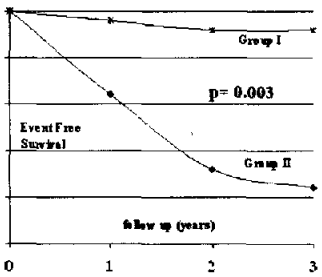
Background: The presence of a markedly positive stress electrocardiogram (SEKG) is a marker of significant coronary artery disease. The prognostic value of a normal stress echocardiography (SE) in the presence of a markedly positive SEKG is not known. **Methods**: We evaluated 95 patients (Pts) (61±12 years, 53%males) undergoing a SE (53% treadmill, 47%dobutamine) with a markedly positive SEKG (≥ 2 mm horizontal ST- segment depression (STD) at peak stress. Pts with a baseline STD of ≥1mm, left ventricular hypertrophy, conduction abnormality (LBBB) or on digoxin were excluded. Two echocardiographers reviewed SE blinded to SEKG and analysed wall motion using the standard 16-segment, 5-point scale. Follow up (mean 2.6 ± 1.2 years) for confirmed hard cardiac events: cardiac death (n=3), non-fatal myocardial infarction (n=0) and soft cardiac events: late revascularization (PCI or CABG > 30 days after SE) (n=14), unstable angina hospitalization (n=3) were obtained. **Results**:The study cohort (with a markedly positive SEKG) were divided into two groups: Group I(n=45)with a normal SE and Group II (n=50)with an abnormal SE.Group I had no hard events and 2 soft events (1 unstable angina, 1PCI, 4.4%). Group II had 3 hard events (3 cardiac deaths, 6.0%) and 16 soft events (2 unstable angina, 9 PCI and 5 CABG, 32%). Group I versus Group II, p=0.003 (fig). **Conclusion**: A normal stress echocardiogram even in the presence of a markedly positive SEKG confers a benign prognosis.



POSTER SESSION

1071 Cardiovascular Magnetic Resonance: Vascular Imaging and Role in Interventions

Sunday, March 17, 2002, 3:00 p.m.-5:00 p.m.
Georgia World Congress Center, Hall G
Presentation Hour: 4:00 p.m.-5:00 p.m.

1071-49 **Detection of Stenotic Coronary Artery Bypass Grafts and Recipient Vessels With Magnetic Resonance Imaging**

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Background. Coronary artery bypass grafting (CABG) is a frequently performed surgical procedure and subsequent graft disease is an important issue in cardiology that commonly necessitates invasive analysis. Magnetic Resonance imaging (MRI) is a potential noninvasive diagnostic tool to differentiate stenotic from non-stenotic grafts, but its value remains to be established.
Methods. We studied 166 grafts (81 single vein, 44 sequential vein and 41 arterial grafts) in 69 consecutive patients, who were scheduled for x-ray coronary angiography because of recurrent chest pain after CABG. MRI with fast flow mapping at baseline and during adenosine-induced stress was performed. Using quantitative x-ray coronary analysis the grafts were divided into a group with a stenosis >=50% (n=72) and a group with a stenosis >=70% (n=48) in the graft or recipient coronary arteries. Marginal logistic regression